TRAFFIC RECORDS

I. PROGRAM OVERVIEW

Traffic record systems include the data elements necessary for problem identification, problem analysis, and countermeasure evaluation in all areas of traffic safety. Traffic record programs include data related to collisions and to every aspect of the program infrastructure. Data pertaining to people, vehicles, and roadways are all part of the total traffic records network.

The geographic size of California and its large population makes the complete centralization of traffic records somewhat cumbersome and impractical. Therefore, various aspects of traffic records are delivered by a variety of responsible agencies. Consequently, it is more appropriate to refer to a traffic record network rather than a traffic record system.

The most common theme of the total records program is the Statewide Integrated Traffic Records System (SWITRS). Installed at California Highway Patrol (CHP) in 1974, the SWITRS provides collision-related reports to state and local agencies. Since SWITRS inception, there have been major advances in computing capabilities, rendering certain features of the SWITRS system cumbersome, time-consuming, and labor intensive. The cost and the impact of changing to an on-line system are presently being studied and system re-development is in progress.

The Traffic Accident Surveillance and Analysis System (TASAS), maintained by Caltrans, is the repository of all crash data pertaining to state and interstate highways, and includes detailed data on the location and types of roadways, as well as collisions occurring on these highways. TASAS does not include local (city or county) streets or roadway data.

Department of Motor Vehicles (DMV) maintains a large statewide computer network to record all registered motor vehicles and licensed drivers (and some unlicensed). The system generates a transcript for <u>every</u> person cited or arrested for a traffic violation who is subsequently convicted, or who defaults on bail and is forwarded by the courts to DMV. The resulting transcript becomes the basis for an entry into the Automated Management Information System (AMIS), even if the person arrested is not a licensed driver. If a citation is issued or an arrest is made in connection with a collision, the record of a collision involving a specific driver will be included in the file.

Advances in computer technology have enabled the DMV to establish a direct electronic link to nearly all of the municipal courts within the State. By means of this linkage, nearly all traffic court judges have access to complete and current driver histories, thereby making the penalties imposed by the court more in keeping with the actual and current driving record of the individual. DMV continues to expand this capability and is placing as many courts as possible on-line.

The Department of Justice (DOJ) system maintains a record of arrests made within the state, including the final disposition of each case. This record system shows all arrests, regardless of traffic involvement, and identifies specific vehicle code violations.

The Emergency Medical Services Authority (EMSA) has installed a statewide database of emergency medical conditions, including response times to collisions and subsequent treatment of collision victims. In the EMS system, all regional trauma systems store and retrieve medical data, with a certain mandated core data transmitted to the EMSA system.

EMSA is trying to establish the means and methodology to track specific individuals from the collision to the emergency responder to the hospital and finally to hospital discharge. EMS linkage is necessary for the sensitivity index computation, and provides traffic engineers and traffic law enforcement personnel invaluable information on morbidity and mortality rates.

All cities and counties maintain traffic-related records, including data on local roadways. Many agencies report optimal effectiveness can be achieved by maintaining a local system that includes many of the same data elements contained in the statewide systems. A local system includes collision records, records of arrests and citations, and crash data on local streets and roads.

Local agencies in California have identified specific difficulties in using SWITRS, primarily the time lag in receiving reports and the inconsistencies in the identification of local street names. For smaller cities, these problems do not represent major obstacles; but larger communities require an automated collision system to provide in part, a more timely record and a more accurate identification of crashes.

The Office of Traffic Safety (OTS) will continue to address the need for local systems by continuing to provide hardware and software to local grantees that are compatible with SWITRS. Many local agencies are implementing, or exploring the feasibility of implementing local Geographic Information System (GIS) based traffic record systems.

In September 2005 California requested the National Highway Traffic Safety Administration (NHTSA) to facilitate a traffic records assessment. A team of professionals with backgrounds and expertise in the several component areas of traffic records data systems (crash, driver/vehicle, traffic engineering, enforcement and adjudication, and EMS/Trauma data systems) conducted the assessment.

The scope of this assessment in compliance with Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), covered all of the components of a traffic records system. The purpose was to determine whether California's traffic records system is capable of supporting management's needs to identify the state's safety problems, to manage the countermeasures applied to reduce or eliminate those problems, and to evaluate those programs for their effectiveness.

II. ACTION PLANS

OTS is implementing the recommendations of the 2005 Traffic Records Assessment including strategic planning through the Traffic Records Coordinating Committee (TRCC). The committee is comprised of representatives from state and local agencies including OTS. They are tasked with oversight of the development of the Traffic Records Strategic Plan. The plan is based on the assessment findings and current and emerging highway safety information initiatives.

OTS remains committed to providing funds to agencies on both the city and county level to purchase fully automated collision and citation records and analysis systems. OTS is confident that once implemented these systems will decrease the agency resources needed to maintain collision and citation statistical data. These systems are also expected to reduce the frequency and possibly the severity of traffic collisions in each jurisdiction where the systems are implemented.

OTS strongly recommends that both engineering and enforcement agencies become involved in system selection, deployment and data sharing. This cooperative approach results in economies of scale (time and capital) to each of the agencies due to the system licensing and compatibility between the agencies. The GIS based collision and citation analysis program will allow agencies to conserve resources while at the same time provide transportation engineers, public safety officers, department managers and enforcement agencies with timely, accurate and useable information upon which to base engineering, enforcement and other traffic related safety decisions.

III. TASKS

TASK 1 - PROGRAM DEVELOPMENT AND ADMINISTRATIVE COORDINATION

This task provides for the necessary staff time and expenses incurred by OTS that are directly related to the planning, development, coordination, monitoring, auditing, and evaluation of grants within this program area, and the preparation of the 2009 Highway Safety Plan. This plan includes grants that will be continued from prior fiscal years. Funding is also provided in this task for the printing of brochures and pamphlets, distributing literature and media materials developed through successful grants, or obtained from other sources. Assistance is also provided under this task to individuals to attend and participate in technology transfer workshops, training sessions, or educational meetings or conferences.

TASK 2 - DATA RECORDS DESIGN AND IMPLEMENTATION

Grants funded in this task provide the databases and data record design by which State local agencies can supplement existing collision record programs with needed roadway data. Seven grants have been identified in the California State Traffic Safety Information Systems Strategic Plan developed by the California Traffic Records Coordinating Committee and subsequently approved by NHTSA. These grants are included below under 408 funds.

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TR0804 – CALIFORNIA DEPARTMENT OF TRANSPORTATION
TSN TASAS DATABASE ENHANCEMENTS
This grant will allow Caltrans to migrate the TASAS System to a GIS based linear referencing system, including networking capability, to promote analytical capabilities and data sharing within the department and with it's partner agencies, such as the California Highway Patrol and Department of Motor Vehicles. Simultaneously, the department will be able to improve the timeliness and quality of it's base highway system, accident and traffic volume data used by the department and it's partners to identify, isolate and analyze critical traffic safety issues. ($500,676)

TR0805 - CALIFORNIA DEPARTMENT OF MOTOR VEHICLES
IMPROVE DEPARTMENT OF MOTOR VEHICLE DATABASE INTEGRITY
Courts and law enforcement use the Department of Motor Vehicles' (DMV) Driver License Database to obtain information on drivers' involvement in crashes, convictions of traffic offenses, and departmental actions, and to impose sanctions or issue citations to a defendant based on this information. This project will identify any reporting problems from court conviction to update on the Driver License Database in two ways: checking the accuracy and completeness of driving under the influence (DUI) conviction reporting, and improving median court reporting time for DUI convictions. ($101,031)

TR0806 - JUDICIAL COUNCIL OF CALIFORNIA
TRAFFIC CITATION E-FILING GRANT
The California Administrative Office of the Courts (AOC) proposes to leverage its established statewide infrastructure (California Case Management System (CCMS), data exchange standards, and Integrated Services Backbone (ISB) -- a suite of tools and services for sharing information) to develop a Citation Tracking System (CTS) and deploy it to pilot -three medium to large California Superior Court pilot sites. This project will use a standard, reusable architecture so that e-filing capability can be deployed to additional courts and their law enforcement partners as they become ready to do e-citations. ($286,722)

TR0807 - CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
CRASH MEDICAL OUTCOMES DATA – CMOD
To better understand how to prevent Californians from being injured and killed in traffic crashes, California's traffic safety and injury prevention community needs analyses of both crash and medical data focusing on person-level risk factors and outcomes. This project responds to the current gap in knowledge by integrating data sets like SWITRS, pre-hospital records, emergency department records, hospital inpatient records, and death data. By combining these data sources, we gain a powerful ability to look at the health outcomes from crashes and the relationships between those outcomes and various risk factors and crash characteristics. ($440,836)

TR0808 - EMERGENCY MEDICAL SERVICES AUTHORITY
CALIFORNIA EMS INFORMATION SYSTEM (CEMSIS) UPDATE
CEMSIS is an application designed to accept EMS and trauma data from local EMS agencies throughout the state and provide an avenue for linkage with other appropriate data sources to create a timely, accurate, complete, uniform data base that can be used to, in accordance with the expectations of SAFETEA-LU, comply with the recommendations from the 2005 California Traffic Records Assessment. The project will update CEMSIS to be in compliance with, and participate in, the federal data collections systems: National EMS Information System (NEMSIS) and the National Trauma Data Bank (NTDB). CEMSIS will be designed to receive both EMS and trauma data electronically from each of the 31 local EMS agencies. Injured patient data will be linked with other data systems to assist state and local efforts in injury prevention related to traffic safety. Data is necessary to assess performance, quality, utilization and prevention, benchmark against existing national standards and to inform future policy decisions and directions for EMS and trauma care in California. ($327,864)

TR0809 - CALIFORNIA HIGHWAY PATROL
ALLIED AGENCIES COLLISION REPORTING (AACR) - SWITRS
This project will obtain hardware and consulting services to provide a statewide, external and internal Statewide Integrated Traffic Records System (SWITRS) environment that efficiently and effectively automates the request from and responses to CHP and Allied Agencies for SWITRS data and reporting. It will also enhance the input and import of data into SWITRS utilizing the Extensible Markup Language (XML) data transmission standard. ($281,555)

TR0810 - CALIFORNIA HIGHWAY PATROL
RECORDS MANAGEMENT SYSTEM - [STATE-WIDE AUTOMATED CITATION SYSTEM (SACS)]
The project will obtain and deploy the hardware and software for a state-wide automated citation system that will interface electronically with all judicial jurisdictions within the State of California that are capable of accepting electronic citation data transmissions. ($728,000)

TR0903 – UNIVERSITY OF CALIFORNIA, BERKELEY
A WEB BASED MAPPING SYSTEM FOR CALIFORNIA – COLLISION DATA
GIS technology has become a valuable tool for local traffic safety practitioners. The TSC is currently geo-coding SWITRS data with approximately 80 to 85% accuracy and providing a simple web interface will allow basic database queries and the ability to display collisions as 'pin' maps using Google Maps. In the proposed project, we will extend the web capabilities and develop a more extensive web mapping system. A web-based viewing and analysis system will be created to allow users to query specific SWITRS data, interactively build maps in real time, and incorporate other data in the maps (e.g., US Census demographic data). Users will also be able to conduct basic or advanced spatial analyses on the mapped data. ($133,950)

TASK 3 - COMPREHENSIVE DATA SYSTEM DESIGN AND IMPLEMENTATION

Grants funded in this task include activities that are broadly based and encompass records systems that include law enforcement, collision investigation, traffic engineering, adjudication, and emergency medical services. It is within this task that comprehensive systems, such as GIS are funded.

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TR0902 - PLEASANTON
AUTOMATED COLLISION ANALYSIS AND TRACKING SYSTEM
The City of Pleasanton proposes to implement an automated collision and tracking program with GIS capabilities for the Traffic Engineering/Public Works Department and the Police Department. This system will allow for a cooperative traffic safety effort by the Traffic Engineering/Public Works Department and the Police department. The Program will provide both departments with the ability to provide timely tracking, identification, analysis, and graphing of collision and citation data. ($31,000)

TR0605 - CALIFORNIA HIGHWAY PATROL
INTERNET STATEWIDE INTEGRATED TRAFFIC RECORDS SYSTEM (I-SWITRS)
This grant makes SWITRS available to allied agencies and CHP users via the Internet. Purchasing software licenses on a metric called a processor license will allow one unit of the license to deploy the software onto one hardware processor with no restriction on the number of users. Doing so will allow hundreds of users to use the software, thereby giving allied agencies and all of CHP access to SWITRS data on the Internet. ($36,155)

TASK 4 - HIGH RISK DRIVER IDENTIFICATION DATA CAPTURE IMPROVEMENT GRANTS

Grants funded under this task are primarily concerned with developing the methodology to correctly identify high-risk drivers and the subsequent development of software to allow for the tracking of the identified high-risk drivers.

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TR0703 – CALIFORNIA DEPARTMENT OF MOTOR VEHICLES
A PILOT STUDY OF THE TRAFFIC SAFETY EFFECT OF THE THREE-TIER ASSESSMENT SYSTEM
The three-tier assessment system will assess driving-relevant abilities of functionally limited drivers by using novel licensing tests in addition to the standard ones and administer educational interventions, designed to enhance appropriate compensation, to functionally limited drivers on the basis of their test performance. The three-tier assessment system will address the aging driving populations the overwhelming number of drivers with limitations, and therefore, assessed by this system, will be 70 years of age and older. The proposed grant will determine the operational feasibility and overall traffic-safety effect of the three-tier assessment system. ($187,491)

TR0901 – CALIFORNIA DEPARTMENT OF MOTOR VEHICLES
CALIFORNIA DRIVER SURVEY: THE HABITS AND OPINIONS OF CALIFORNIA DRIVERS
This project will survey a sample of California drivers to determine their habits and opinions on selected traffic safety issues. This project will also assess the importance of exposure and territorial risk indices as predictors of traffic crashes beyond that of driver record factors. The information provided from the proposed project will assist traffic safety administrators and legislators in improving services and in developing more effective driver safety programs. ($99,565)